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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/939,643	08/28/2001	Atsushi Murakami	249-194	4473

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EXAMINER
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VO, HAI

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 08/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/939,643	<b>Applicant(s)</b> MURAKAMI ET AL.	
	<b>Examiner</b> Hai Vo	<b>Art Unit</b> 1771	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**P riod for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 June 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
     If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
     a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-8 and 10 rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bogdany (US 5,114,773).

Bogdany teaches a carpet underlay cushion structure comprising a polyurethane foam impregnated with a fluid composition that includes acrylic polymer or styrene copolymer (column 5, lines 60-68). Bogdany teaches the foam carrier/thermoplastic substance heated and compressed at the temperature higher than the softening temperature of the thermoplastic substance (column 10, lines 58 et seq.). Bogdany teaches the foam carrier/thermoplastic substance cured and compressed at the temperature in the range from 120°F to 550°F (49°C to 288°C) (column 8, line 8) overlapping with the claimed range. The impregnated foam material is cooled while

retaining it in the compressed state (column 11, lines 5-8). Bogdany teaches after cooling, the thermoplastic substance no longer in a softened state and the cured thermoplastic substance serves to freeze the finish product at substantially the thickness to which the foam carrier/thermoplastic substance was reduced in the compressed state (column 11, lines 8-17). Bogdany discloses the thermoplastic substance having a thickness in the range of 80 to 650 mils (column 8, line 23). Likewise, it is apparent that a compressed state of the foam carrier/thermoplastic substance is retained in a room temperature by a hardened layer of the thermoplastic substance existing in the cell surface layer of the foam carrier. Bogdany does not specifically disclose the compressed state being released by softening the hardened product of the thermoplastic substance by heating. However, Bogdany's composite foam structure meets all the structural and chemistry limitations in the claims. It appears that Bogdany and Applicants are using the same materials to form a base foam and a thermoplastic substance and the same process (impregnating, heating, compressing, cooling and releasing the pressure after cooling) to produce a shape memory foam material, it is not seen that the composite foam structure of Bogdany would have performed differently from Applicants' shape memory foam material upon softening the hardened product of the thermoplastic substance by heating. It seems from the claim, if one meets the structure recited, the properties must be met or Applicant's claim is incomplete (Note discussion found in *Ex parte Slob*, 157 USPQ 172). Note In re Best 195 USPQ at 433, footnote 4 (CCPA 1977) as to the providing of this rejection under 35 USC 103 in addition to

the rejection made under 35 USC 102. It is the examiner's position that Bogdany anticipates or strongly suggests the claimed subject matter.

With regard to claims 2 and 3, Bogdany does not specifically disclose a volume of the foam material being recovered in 70% or more of an uncompressed state thereof by heating. However, Bogdany's composite foam structure meets all the structural and chemistry limitations in the claims. It appears that Bogdany and Applicants are using the same materials to form a base foam and a thermoplastic substance and the same process (impregnating, heating, compressing, cooling and releasing the pressure after cooling) to produce a shape memory foam material, it is the examiner's position that the volume of the foam material in Bogdany would have inherently recovered within the claimed range of an uncompressed state thereof by heating. It seems from the claim, if one meets the structure recited, the properties must be met or Applicant's claim is incomplete (Note discussion found in Ex parte Slob, 157 USPQ 172). The same token is applied to the retaining thickness of the foam material in an uncompressed state at the room temperature.

With regard to claims 4-6, Bogdany discloses the composite foam structure comprising the base foam material of polyurethane having a density less than 1.5 lb/ft<sup>3</sup> (24 kg/cm<sup>3</sup>) (column 5, line 49). Likewise, it is apparent that the foam has a density less than 100 kg/m<sup>3</sup>. Since Bogdany is using the same polyurethane foam with a density within the claimed range to form a shape memory foam material as Applicants, it is the examiner's position that the water absorption coefficient of the

foam would be inherently present. Products of identical chemical composition can not have mutually exclusive properties. In re Spada, 15 USPQ 2d 1655 (1990).

With regard to claims 7 and 8, it appears that Bogdany and Applicants are using the same materials to form a thermoplastic substance of a shape memory foam material such as vinyl acetate, polystyrene (column 5, lines 65-67), it is not seen that the softening temperature of the thermoplastic substance would be present outside the range claimed by the present invention. This is in line with In re Spada, 15 USPQ 2d 1655 (1990). Products of identical chemical composition can not have mutually exclusive properties.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bogdany (US 5,114,773). Bogdany is silent as to the use of a shape memory foam material as a soundproof for an automobile engine. However, since the composite foam structure of Bogdany has a shape retained in the compressed state, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use it for filling the gap by heating after mounting operation and soundproofing performance is sufficient. Further, it has been held that a recitation with respect to the manner in which a claimed soundproofing cover is intended to be employed does not differentiate the claimed from soundproofing cover a prior art carpet underlay cushion structure satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

### ***Response to Arguments***

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5. The art rejections over Takahashi or Buese have been overcome by the present amendment and response.
6. The art rejections over Bogdany have been maintained for the reasons set forth in the rejections above. Bogdany's description does include a base foam material having an open cell structure with a thermoplastic substance impregnated and distributed in the base foam material (column 5, lines 60-68). Bogdany teaches the foam carrier/thermoplastic substance cured and compressed at the temperature in the range from 120°F to 550°F (49°C to 288°C) (column 8, line 8) overlapping with the claimed range. Bogdany does not specifically disclose the compressed state being released by softening the hardened product of the thermoplastic substance by heating. However, Bogdany's composite foam structure meets all the structural and chemistry limitations in the claims. It appears that Bogdany and Applicants are using the same materials to form a base foam and a thermoplastic substance and the same process (impregnating, heating, compressing, cooling and releasing the pressure after cooling) to produce a shape memory foam material, it is not seen that the composite foam structure of Bogdany would have performed differently from Applicants' shape memory foam material upon softening the hardened product of the thermoplastic substance by heating. It seems from the claim, if one meets the structure recited, the properties must be met or Applicant's claim is incomplete (Note discussion found in Ex parte Slob, 157 USPQ 172).

**Conclusion**

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7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


US 3,193,442 teaches a laminated articles comprising a polyurethane foam having open cells filled with a thermosetting resinous composition in a hardened condition, the thermosetting resinous composition having been cured while the polyurethane foam was maintained under compression.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (703) 605-4426. The examiner can normally be reached on Tue-Fri, 8:30-6:00 and on alternating Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

HV  
July 31, 2003

  
TERREL MORRIS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700